FORM PTO-1390 (REV. 11-2000) U S DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: Mo-6209/HR-183

U S APPLICATION NO (If known, see 37 CFR 1 5): To Be Assigned 09/762847

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/EP99/05639	August 4, 1999	August 17, 1998

TITLE OF INVENTION: Gas Odorization Method

APPLICANT(S) FOR DO/EO/US: MANSFELD, Gerd; ROHDE, Ute; HENKE, Fritz and KAESLER, Heribert

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [X] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. [ ] This is a **SECOND or SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. [X] This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. [X] The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. [X] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. [X] is attached hereto (required only if not communicated by the International Bureau).
   b. [ ] has been communicated by the International Bureau.
   c. [ ] is not required, as the application was filed in the United States Receiving Office (RO/US).
6. [X] An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. [ ] is attached hereto.
   b. [ ] has been previously submitted under 35 U.S.C. 154(d)(4).
7. [ ] Amendments to the claims of the International Aplication under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. [ ] are attached hereto (required only if not communicated by the International Bureau).
   b. [ ] have been communicated by the International Bureau.
   c. [ ] have not been made; however, the time limit for making such amendments has NOT expired.
   d. [ ] have not been made and will not be made.
8. [ ] An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
9. [ ] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. [ ] An English lanugage translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. [ ] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. [ ] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. [X] A FIRST preliminary amendment.
14. [ ] A SECOND or SUBSEQUENT preliminary amendment.
15. [ ] A substitute specification.
16. [ ] A change of power of attorney and/or address letter.
17. [ ] A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. [ ] A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. [ ] A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. [X] Other items or information:

Abstract

U.S. APPLICATION NO (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO	ATTORNEY'S DOCKET NUMBER
To Be Assigned	PCT/EP99/05639	Mo-6209/HR-183

21. [X] The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a (2)) paid to USPTO and International Search Report not prepared by the EPO or JPO **$1000.00**

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$860.00**

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO **$710.00**

International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$690.00**

International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) **$100.00**

	CALCULATIONS PTO USE ONLY	
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 860.00	
Surcharge of **$130.00** for furnishing the oath or declaration later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$ 0.00	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	14 -20 =	0	x $18.00	$ 0.00	
Independent claims	2 -3 =	0	x $80.00	$ 0.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ $270.00	$ 0.00	
TOTAL OF ABOVE CALCULATIONS =				$ 860.00	
[ ] Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.			+	$ 0.00	
SUBTOTAL =				$ 860.00	
Processing fee of **$130.00** for furnishing the English translation later than [ ] 20 [ ] 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				$ 0.00	
TOTAL NATIONAL FEE =				$ 860.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +				$ 0.00	
TOTAL FEES ENCLOSED =				$ 860.00	
				Amount to be refunded:	$
				charged:	$

a. [ ] A check in the amount of $ _____ to cover the above fees is enclosed.

b. [X] Please charge my Deposit Account No. 13-3848 in the amount of $ 860.00 to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 13-3848. A duplicate copy of this sheet is enclosed.

d. [ ] Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO

Richard E.L. Henderson
Bayer Corporation
Patent Department
100 Bayer Road
Pittsburgh, PA 15205-9741

00157
PATENT TRADEMARK OFFICE

SIGNATURE

Noland J. Cheung
NAME

39,138
REGISTRATION NUMBER

PATENT APPLICATION
Mo-6209
HR-183

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF	) PCT/EP99/05639
GERD MANSFELD, ET AL.	)
SERIAL NUMBER: TO BE ASSIGNED	)
FILED: HEREWITH	)
TITLE: GAS ODORIZATION METHOD	)

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231
Sir:

Upon the granting of a Serial Number and Filing Date and prior to the examination of the subject application, kindly amend the Specification and claims as follows:

IN THE SPECIFICATION:

Kindly insert the following "ABSTRACT" page

--GAS ODORIZATION METHOD

ABSTRACT OF THE DISCLOSURE

A mixture of acrylic acid and nitrogen compounds is particularly adapted to achieve a sulphur-free odorization of a gas.--

Kindly replace the Title of the Invention with the following:

--GAS ODORIZATION METHOD--.

On page 1, line 3, kindly insert the following:

--FIELD OF THE INVENTION--.

On page 1, line 9, kindly insert the following:

--BACKGROUND OF THE INVENTION--.

On page 3, line 11, kindly insert the following:

--SUMMARY OF THE INVENTION--.

On page 3, line 21, kindly insert the following:

--DETAILED DESCRIPTION OF THE INVENTION--.

IN THE CLAIMS:

Kindly cancel Claim 8.

Kindly amend the claims as follows:

In Claim 1, line 3, after the word "adding", kindly insert the following: --to said gas--.

In Claim 2, line 12, kindly replace "according to which" with --wherein said--.

In Claim 2, line 13, kindly insert before the word "esters", the phrase --C_1 - C_{12}-alkyl--.

In Claim 3, line 15, kindly replace "according to which" with --wherein--.

In Claim 4, line 18, kindly replace " according to which" with --wherein--.

In Claim 5, line 21, kindly replace "Claims 1 to 4" with --Claim 1--.

In Claim 5, line 21, kindly replace "according to which" with --wherein--.

In Claim 6, line 1, kindly replace "Claims 1 to 5" with --Claim 1--.

In Claim 6, line 1, kindly replace "according to which" with --wherein--.

In Claim 7, line 4, kindly replace "Claims 1 to 6" with --Claim 1--.

In Claim 7, line 4, kindly replace " according to which" with --wherein--.

Kindly add the following new claims:

--9. A gas comprising an odorizing composition comprising

A. at least one acrylic C_1-C_{12}-alkyl ester,

B. at least one N compound with a boiling point of from 90 to 210°C and a molecular weight of from 80 to 160 and optionally,

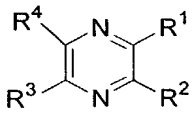
C. an antioxidant.

10. A gas according to Claim 9, wherein at least two different acrylic C_1-C_{12}-alkyl esters are added.

11. A gas according to Claim 9, wherein a mixture of two different acrylic C_1-C_6-alkyl esters are added as component A.

12. A gas according to Claim 9, wherein the weight ratio of the two acrylic ester classes is 9:1 to 1:9.

13. A gas according to Claim 9, wherein said at least one N compound is of the formula:



(I)

, wherein R^1 to R^4, independently of one another, are hydrogen or C_1-C_4-alkyl.

14. A gas according to Claim 9, wherein said at least one N compound is used in an amount of from 1 to 100 parts by weight per 1,000 parts by weight of said Component A.

15. A gas according to Claim 9, wherein at least said antioxidant is used in an amount of from 0.01 to 5 parts by weight per 1,000 parts by weight of said Component A.--

REMARKS

The Applicants respectfully request the Preliminary Amendment be entered as the amendment places the claims as well as the Specification in proper form.

New Claim 9 replaces now cancelled Claim 8. New Claims 10 - 15 are dependent on Claim 9 and contain the elements of Claims 2 - 7, respectively. The Applicants respectfully submit that no new matter is added.

Respectfully submitted,

GERD MANSFELD
UTE ROHDE
FRITZ HENKE
HERIBERT KAESLER

By ______________________
Noland J. Cheung
Attorney for Applicants
Reg. No. 39,138

Bayer Corporation
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-2827
FACSIMILE PHONE NUMBER:
(412) 777-5449
/vjt/NJC3059

GAS ODORIZATION METHOD

ABSTRACT OF THE DISCLOSURE

A mixture of acrylic acid and nitrogen compounds is particularly adapted to achieve a sulphur-free odorization of a gas.

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JC02 Rec'd PCT/PTO 09 FEB 2001

Odorization of gas

The present invention relates to the odorization of gas.

Town and coke-oven gases obtained by thermal processes contained intensely odoriferous components and therefore had a strong intrinsic odour, so that escaping gas could be readily detected.

Because of its origin (natural gas) and a relatively high degree of purity, the gas used nowadays in the public network is in itself virtually odourless; if leakages are not noticed in good time, explosive gas/air mixtures with a high hazard potential quickly form. For safety reasons, gas is therefore odorized by adding odorants. For example, in Germany it is stipulated that all gases which do not have sufficient intrinsic odour and are distributed in the public gas supply (DVGW-Arbeitsblatt [Worksheet] G 260) are odorized in accordance with DVGW-Arbeitsblatt [Worksheet] G 280; DVGW = Deutscher Verein des Gas- und Wasserfaches e.V. [German Association on Gas and Water], Eschborn. These odorizing compositions are detectable even when highly diluted and, because of their extremely unpleasant odour, act, as is desired, as a warning signal for people. In Germany, approximately 90% of service gas is currently odorized with tetrahydrothiophene (THT) (12-25 mg/m^3); in addition, odorization using mercaptans or thioethers is also customary.

THT and mercaptans are highly suitable for reliable odorization of gas. However, in the context of treating the environment with more respect, it is to be noted that during the combustion of such odorized gases, sulphur dioxide forms as combustion product – only in small amounts at each individual combustion site, but, viewed on a countrywide scale, in amounts of a few hundred tons per year. It would be desirable to overcome this disadvantage; however, a number of requirements have to be satisfied:

1. The odour must be unpleasant and unmistakable (odours from kitchens and homes are excluded). It must act as a warning signal for people who smell escaped gas.

2. Everybody with an average sense of smell and average physiological condition must be able to detect the odour.

3. The warning odour stage (= average odour intensivity) must be achieved before the ignition limit or a kinetic carbon monoxide content is reached.

4. The odorizing composition must be as nontoxic as possible and must not form any toxic combustion products.

5. The odorizing composition must have high volatility and evaporate leaving as little residue as possible

6. A suitable odorizing composition must not condense at winter temperatures, nor separate, nor adhere to metallic pipes.

7. The odorizing composition must combust without leaving a residue.

8. The odorizing composition must be storage-stable and chemically resistant to the gas and to the plants. It must not promote corrosion, nor attack customary seals.

Attempts have already been undertaken to provide new gas odorizing compositions. Thus, the following, for example, have been proposed:

- alkyl acrylates, vinyl or alkyl ethers and mixtures thereof (JP 76-7481),

- n-valeric acid, optionally in combination with ethyl acrylate and/or triethylamine (JP 76-34 841),

- mixtures of sulphur compounds and aliphatic aldehyde (JP 78-35 562),

- cycohexene (JP 83-42 235),

- norbornene derivatives (JP 87-1998) and

- saturated ethers, saturated esters, and mixtures thereof with mercaptans.

It has now been found that, by additions of

A. acrylic C_1-C_{12}-, preferably C_1-C_8-alkyl, esters,

B. nitrogen compounds and optionally

C. antioxidants

progressively odorized gas is obtained which largely combines the desired properties. The novel odorizing composition can be added to the gas in the same order of magnitude as sulphur-containing compounds and does not produce corrosion-promoting products upon combustion.

The acrylic esters A include methyl acrylate, ethyl acrylate, n-propyl acrylate, isopropyl acrylate, n-butyl acrylate, isobutyl acrylate, tert-butyl acrylate, pentyl acrylate, hexyl acrylate, heptyl acrylate, octyl acrylate and dodecyl acrylate. In a preferred embodiment, mixtures of acrylic C_1-C_6-alkyl esters are used as component A; a particularly preferred combination comprises methyl acrylate and ethyl acrylate alongside one another. The acrylate mixtures can contain the lower and the higher esters in each case in the weight ratio of from 9:1 to 1:9, preferably 7:3 to 3:7.

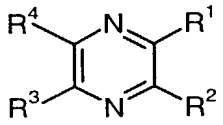
Preferred nitrogen compounds B include primarily compounds

- with a flash point above 20°C, preferably above 40°C (measured in accordance with ISO 2719),
- with a molecular weight of from 80 to 160, preferably 110 to 145,
- with a boiling point of from 90 to 210, preferably 110 to 165°C.

The nitrogen compounds B include, for example,

lactones, such as caprolactone

nitriles, such as 2-nonenenitrile and compounds of the formula



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where

R^1 to R^4, independently of one another, are hydrogen or C_1-C_4-alkyl, preferably methyl or ethyl.

Preferred compounds (I) are e.g. 2-methylpyrazine, 2,3-dimethylpyrazine, 2,6-dimethylpyrazine, 2,3,5-trimethylpyrazine, tetramethylpyrazine, 2-ethylpyrazine, 2,3-diethylpyrazine, 5,2-methylethylpyrazine, 2,3-methylethylpyrazine, 5,2,3-methyldiethylpyrazine and 3,5,2- and 3,6,2-dimethylethylpyrazine. 2,3-methylethylpyrazine and tetramethylpyrazine are preferred.

The nitrogen compounds B can be used in amounts of from 1 to 100, preferably 30 to 100, in particular 10 to 50, parts by weight per 1 000 parts by weight of A.

To protect against undesired oxidation, the odorizing compositions may comprise antioxidants, as are described, for example, in Römpp-Lexikon Chemie Version 1.3. Preferred antioxidants include butylhydroxyanisole, ionol = tert-butylhydroxytoluene, hydroquinone monomethyl ether and α-tocopherol.

The antioxidants C are preferably used in amounts of from 0.01 to 5, in particular 0.05 to 2, especially 0.1 to 1, parts by weight per 1 000 parts by weight of A.

Preferred gas odorizing compositions can, for example, have the following compositions:

Example 1

Ethyl acrylate	600 g
Methyl acrylate	360 g
5,2,3-Methyldiethylpyrazine	39 g
Ionol	1 g

Example 2

Ethyl acrylate	535 g
Methyl acrylate	400 g
2-Methylpyrazine	64 g
Ionol	1 g

Example 3

Ethyl acrylate	320 g
Methyl acrylate	637 g
3,5(6),2-Dimethylethylpyrazine	42 g
Ionol	1 g

Example 4

Ethyl acrylate	460 g
Methyl acrylate	460 g
2,6-Dimethylpyrazine	79 g
Ionol	1 g

Example 5

Ethyl acrylate	520 g
Methyl acrylate	459 g
2,3,5-Trimethylpyrazine	20 g
Ionol	1 g

Example 6

Ethyl acrylate	885 g
Methyl acrylate	100 g
2,3-Methylethylpyrazine	14 g
Ionol	1 g

Example 7

Ethyl acrylate	700 g
Methyl acrylate	274 g
2,3-Dimethylpyrazine	25 g
Ionol	1 g

Example 8

Ethyl acrylate	350 g
Methyl acrylate	600 g
Tetramethylpyrazine	49 g
Ionol	1 g

Example 9

Ethyl acrylate	144 g
Methyl acrylate	800 g
2-Ethylpyrazine	56 g

Example 10

Ethyl acrylate	615 g
Methyl acrylate	300 g
5,2-Methylethylpyrazine	85 g

Example 11

Ethyl acrylate	320 g
Methyl acrylate	649 g
3,5(6),2-Dimethylethylpyrazine	15 g
2,3-Dimethylethylpyrazine	15 g
Ionol	1 g

Example 12

Ethyl acrylate	120 g
Methyl acrylate	807 g
2-Ethylpyrazine	30 g
5,2-Methylethylpyrazine	42 g
Ionol	1 g

Example 13

Ethyl acrylate	520 g
Methyl acrylate	434 g
2,6-Dimethylpyrazine	20 g
2,3-Methylethylpyrazine	25 g
Ionol	1 g

Example 14

Ethyl acrylate	320 g
Methyl acrylate	633 g
2,3-Diethylpyrazine	34 g
2,3-Methylethylpyrazine	12 g
Ionol	1 g

Example 15

Ethyl acrylate	759 g
Methyl acrylate	200 g
2-Methylpyrazine	30 g
Tetramethylpyrazine	10 g
Ionol	1 g

Patent claims

1. Method of odorizing gas by adding

A. at least one acrylic C_1-C_{12}-alkyl ester,

B. at least one N compound with a boiling point of from 90 to 210°C and a molecular weight of from 80 to 160 and optionally

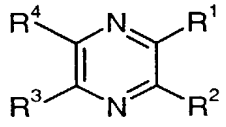
C. an antioxidant.

2. Method according to Claim 1, according to which at least two different acrylic esters A are added.

3. Method according to Claim 1, according to which a mixture of two different acrylic C_1-C_6-alkyl esters is added as component A.

4. Method according to Claim 3, according to which the weight ratio of the two acrylic ester classes is 9:1 to 1:9.

5. Method according to Claims 1 to 4, according to which a compound of the formula



(I)

is used as component B, where

R^1 to R^4, independently of one another, are hydrogen or C_1-C_4-alkyl.

6. Method according to Claims 1 to 5, according to which component B is used in an amount of from 1 to 100 parts by weight per 1 000 parts by weight of A.

7. Method according to Claims 1 to 6, according to which component C is used in an amount of from 0.01 to 5 parts by weight per 1 000 parts by weight of A.

8. Gas odorized by methods according to Claims 1 to 6.

PCT WELTORGANISATION FÜR GEISTIGES EIGENTUM
Internationales Büro
INTERNATIONALE ANMELDUNG VERÖFFENTLICHT NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT)

(51) Internationale Patentklassifikation 7 : C10L 3/00 — A1

(11) Internationale Veröffentlichungsnummer: WO 00/11120

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not. sk

(21) Internationales Aktenzeichen: PCT/EP99/05639

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(30) Prioritätsdaten:
198 37 066.0 17. August 1998 (17.08.98) DE

(71) Anmelder *(für alle Bestimmungsstaaten ausser US)*: HAARMANN & REIMER GMBH [DE/DE]; D–37601 Holzminden (DE). RUHRGAS AKTIENGESELLSCHAFT [DE/DE]; Huttropstrasse 60, D–45138 Essen (DE).

(72) Erfinder; und
(75) Erfinder/Anmelder *(nur für US)*: MANSFELD, Gerd [DE/DE]; Am Büe 1, D–37632 Eschershausen (DE). ROHDE, Ute [DE/DE]; Kleiner Bruch 9, D–37671 Höxter/Stahle (DE). HENKE, Fritz [DE/DE]; Försterstieg 7, D–37603 Holzminden (DE). KAESLER, Heribert [DE/DE]; Flaßkuhlstrasse 5a, D–44797 Bochum (DE).

(74) Anwalt: MANN, Volker; Bayer Aktiengesellschaft, D–51368 Leverkusen (DE).

(81) Bestimmungsstaaten: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO Patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), eurasisches Patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI Patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Veröffentlicht
Mit internationalem Recherchenbericht.
Vor Ablauf der für Änderungen der Ansprüche zugelassenen Frist; Veröffentlichung wird wiederholt falls Änderungen eintreffen.

(54) Title: GAS ODORIZATION METHOD

(54) Bezeichnung: ODORIERUNG VON GAS

(57) Abstract

A mixture of acrylic acid and nitrogen compounds is particularly adapted to achieve a sulphur–free odorization of a gas.

(57) Zusammenfassung

Eine Kombination von Acrylsäure und Stickstoffverbindungen eignet sich hervorragend zu einer schwelfelfreien Odorierung von Gas.

HR 183

#4.

COMBINED DECLARATION AND POWER OF ATTORNEY	ATTORNEY DOCKET NO

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought
on the invention entitled

"GAS ODORIZATION METHOD"

the specification of which is attached hereto,

or was filed on **August 4, 1999**

as a PCT Application Serial No. **PCT/EP99/05639**

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s), the priority(ies) of which is/are to be claimed:

198 37 066.0	**Germany**	**August 17, 1998**
(Number)	(Country)	(Month/Day/Year Filed)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose the material information as defined in Title 37, Code of Federal Regulations, §1.56 which occured between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

JOSEPH C. GIL, Patent Office Registration Number 26,602
ARON PREIS, Patent Office Registration Number 29,426
LYNDANNE M. WHALEN, Patent Office Registration Number 29,457
THOMAS W. ROY, Patent Office Registration Number 29,582
RICHARD E. L. HENDERSON, Patent Office Registration Number 31,619
GODFRIED R. AKORLI, Patent Office Registration Number 28,779
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DIDERICO VAN EYL, Patent Office Registration Number 38,641
CAROLYN M. SLOANE, Patent Office Registration Number 44,339
JAMES R. FRANKS, Patent Office Registration Number 42,552
JACKIE ANN ZURCHER, Patent Office Registration Number 42,251
all of Bayer Corporation, Pittsburgh, Pennsylvania 15205-9741

Send Correspondence To: Customer No. 00157 **Patent Department** **Bayer Corporation** **100 Bayer Road** **Pittsburgh, Pennsylvania 15205-9741**	**Direct Telephone Calls To:** **(412) 777-2349**

1-00 FULL NAME OF SOLE OR FIRST INVENTOR Gerd Mansfeld	INVENTOR'S SIGNATURE	DATE 1.2.2001
RESIDENCE D 37632 Eschershausen, Germany DEX		CITIZENSHIP German
POST OFFICE ADDRESS Am Büe 1, D 37632 Eschershausen, Germany		
2-00 FULL NAME OF SECOND INVENTOR Ute Rohde	INVENTOR'S SIGNATURE Ute Rohde	DATE 12.2.2001
RESIDENCE D 37671 Höxter/Stahle, Germany DEX		CITIZENSHIP German
POST OFFICE ADDRESS Kleiner Bruch 9, D 37671 Höxter/Stahle, Germany		
3-00 FULL NAME OF THIRD INVENTOR Fritz Henke	INVENTOR'S SIGNATURE	DATE 30/01/01
RESIDENCE D 37603 Holzminden, Germany DEX		CITIZENSHIP German
POST OFFICE ADDRESS Försterstieg 7, D 37603 Holzminden, Germany		
4-00 FULL NAME OF FOURTH INVENTOR Heribert Kaesler	INVENTOR'S SIGNATURE Heribert Kaes	DATE 14.02.2001
RESIDENCE D 44797 Bochum, Germany DEX		CITIZENSHIP German
POST OFFICE ADDRESS Flaßkuhlstr. 5a, D 44797 Bochum, Germany		
FULL NAME OF FIFTH INVENTOR	INVENTOR'S SIGNATURE	DATE
RESIDENCE		CITIZENSHIP
POST OFFICE ADDRESS		
FULL NAME OF SIXTH INVENTOR	INVENTOR'S SIGNATURE	DATE
RESIDENCE		CITIZENSHIP
POST OFFICE ADDRESS		
FULL NAME OF SEVENTH INVENTOR	INVENTOR'S SIGNATURE	DATE
RESIDENCE		CITIZENSHIP
POST OFFICE ADDRESS		